

Remarks/Arguments

Claims 30 to 48 are pending.

Claims 30, 34 and 38 have been rejected under 35 U.S.C. 102(b) as being anticipated by Migliorini et al. (U.S. Patent No. 5,591,520). Applicants traverse this rejection.

The Office Action stated that Migliorini et al. teaches a high barrier metallized film with excellent bond strengths comprising a coextruded multilayer film of a layer of polyamide (PA) adjacent and aggressively adhered to a layer of polypropylene (PP), and optionally a heat seal layer, such as, ethylene propylene (EP) or ethylene propylene butene (EPB), applied on the polypropylene layer opposite the polyamide layer, and a metal layer such as aluminum applied to the polyamide surface wherein the metallized film may be subsequently extrusion laminated on the metal surface with a low density polyethylene film (LDPE) *(meets the limitation "first functional layer containing a first plastic film that is a polyolefin or extrusion layer of a polyolefin or one or more lacquer layers")*, such that the structure of the resulting film is: LDPE/metal/PA/PP/EP or EPB (Abstract; Col. 1, lines 10 to 64; Col. 2, lines 39 to 42; Col. 3, line 58 to Col. 4, line 14; Example), wherein the Examiner takes the position that the polyamide/polypropylene film taught by Migliorini et al. would inherently meet the instant limitation with regards to delamination during sterilization given that the film is formed by coextrusion as instantly claimed and wherein the aluminum layer taught by Migliorini et al. reads on the term "aluminum foil" considering the above claims have not limited the term to a particular aluminum layer thickness.

Applicants traverse this statement as being an incorrect, inaccurate description of the disclosure of Migliorni et al.

One side of the metal foil in applicants' claimed composite has thereon a coextruded polyamide layer/polypropylene layer. The polyamide layer lies between the metal foil and the polypropylene layer, and is in direct contact with the metal foil (or a bond or adhesive layer that is in direct contact with the metal foil)..

None of the generic or specific statements in Migliorini et al. anticipates any of applicants' Claims 30 to 48, even as amended herein.

Migliorini et al. states:

"An oriented film combination of (a) a base layer of polypropylene at least one surface of which comprises a maleic acid anhydride modified polypropylene; and (b) on at least one surface, a skin layer of an amorphous polyamide or a blend of an amorphous polyamide and a semicrystalline polyamide." [The Abstract]

There is no anticipation because, for example, this quotation does not mention a coextrudate.

Migliorini et al. states:

"In accordance with the present invention an oriented multi-layer film combination comprises:

(a) a base layer of polypropylene homopolymer or copolymer, at least one surface thereof comprising a maleic acid anhydride modified polypropylene homopolymer or copolymer; and

(b) on said at least one surface a skin layer of a member selected from the group consisting of (1) an amorphous polyamide and (2) a blend of an amorphous polyamide and a crystalline polyamide.” [Column 1, lines 35 to 44]

There is no anticipation because, for example, this quotation does not mention a coextrudate.

Migliorini et al. states:

“While the polyamide of the present invention can be applied directly to the surface of the polypropylene or the polypropylene copolymer, it is preferred that the surface be modified by a particular functionalized material. This can be mixed into or applied on top of the polypropylene substrate, then the polyamide will aggressively adhere to this so-modified material. If a maleic anhydride polypropylene homopolymer or copolymer becomes a part of the substrate surface either by being interblended therewith or by being extruded thereon as a surface skin layer, this then becomes an ideal surface for receiving the polyamide layer of the present invention. This modified surface layer or skin layer itself cannot be separated from the propylene homopolymer or copolymer substrate. By a ‘maleic anhydride modified polypropylene homopolymer or copolymer’ is meant the product resulting from the reaction between maleic anhydride and the thermal degradation product of polypropylene or polypropylene copolymer.” [Emphasis supplied] [Column 1, line 61, to column 2, line 11]

Extruding a layer onto the polypropylene layer is mentioned – this lack of coextrusion eliminates one of the embodiments. This quotation does not mention coextrusion for the other embodiment.

Migliorini et al. states:

"The procedure for the use of a maleic anhydride modified polypropylene homopolymer or copolymer, when this material is interblended into the base layer is exemplified by the following technique....The alternative method of making available the maleic anhydride-modified polypropylene homopolymer or copolymer at the surface of the substrate is to coextrude the base polymer with a skin layer containing the maleic anhydride-modified polymer." [Emphasis supplied]

[Column 2, line 39, to column 2, line 56]

The interblending with the propylene is not coextruding to produce a coextrudate of a polyamide layer/polypropylene layer. Also, coextruding the modified polymer and the polypropylene is not applicants' claimed coextrudate.

Migliorini et al. states:

"EXAMPLE"

"A three layer sheet was produced by coextrusion, employing the following materials:

A-layer dupont amorphous polyamide obtained from the condensation reaction of hexamethylenediamine and isophthalic anhydride;

B-layer 50% polypropylene homopolymer-50% Mitsui QF500 (maleic anhydride modified polypropylene); and

C-layer ethylene-propylene-butene-1 terpolymer containing 700 ppm erucamide antiblock.”

“The coextrudate was quenched at 150° F. on a cast roll, reheated on rolls to 270° F. and stretched 3.5 times its original length in the machine direction....The film was vacuum metallized with aluminum on the polyamide skin to an optical density 2.5 employing conventional vacuum metallization techniques....”

“The metallized film was subsequently extrusion laminated to a low density polyethylene film.” [Emphasis supplied] [Column 4, lines 15 to 44]

Applicants’ claims require a coextrudate that only has two layers, i.e., a polyamide layer and a polypropylene layer (with the polyamide layer in direct contact with the metal foil). This example of Migliorini et al. coextrudes three layers, so there is no anticipation. The use of the term “consisting of” in applicants’ claims excludes coextrusion that includes a third layer.

Migliorini et al. states:

“1. A stretched multi-layer oxygen gas barrier film combination comprising in the following order:

(a) a base layer of polypropylene homopolymer or copolymer at least one surface thereof comprising a maleic acid anhydride modified polypropylene homopolymer or copolymer;

(b) a skin layer of an amorphous polyamide directly bonded on said at least one surface comprising a maleic acid anhydride modified polypropylene homopolymer or copolymer; and

(c) a vacuum metallized layer on said polyamide skin layer.” [Claim 1]

There is no anticipation because, for example, Claim 1 of Migliorini et al. does not mention a coextrudate.

Migliorini et al. states:

“2. The film combination of Claim 1 wherein said at least one surface (a) comprises:

(1) said maleic anhydride modified polypropylene homopolymer or copolymer intermixed with said base layer polypropylene homopolymer or copolymer; or

(2) a separately applied skin layer comprising said maleic anhydride modified polypropylene homopolymer or copolymer on said base layer.”

[Claim 2]

There is no anticipation because, for example, Claim 2 of Migliorini et al. does not mention a coextrudate.

There is no anticipation because Migliorini et al. does not teach, expressly or inherently, applicants' claimed invention.

There is no anticipatory disclosure of any kind in Migliorini et al. The burden of proof is upon the Examiner and the Examiner has not carried that burden of proof.

Nowhere does Migliorini et al. disclose a coextrudate consisting of a polyamide layer and a polypropylene layer. Every coextrudate in Migliorini et al. is different. The burden of proof is still on the Examiner.

The Examiner's attempted use of inherency to meet the claimed invention fails. Migliorini et al. does not meet all of the structure and other limitations of applicants' claims.

The Office Action stated: that applicants argue that the amended claims now overcome the Migliorini rejection because they recite that the second functional layer (c) is limited to a coextruded film of polyamide/polypropylene extrudate only given the "consisting of" language with respect to the second functional layer; that, however, the Examiner notes that the claim as a whole does not exclude additional layers nor does it exclude a layer in between the metal foil and the polyamide/propylene film particularly given that the claim recites "sterilizable composite film containing a barrier layer...comprising a metal foil" and only requires that the metal foil be in direct contact to the first plastic film not the second functional layer; and that, hence, the Examiner maintains her position with regards to the rejections over Migliorini. The amendment to Claim 30 eliminates the Examiner's position.

The Advisory Action of September 18, 2003 stated that; with regards to applicants' arguments of the rejections presented, the Examiner has made an attempt below to summarize the applicants' main arguments with regards to the three primary references below:

Migliorini et al. as primarily in paragraphs 6 and 8

(1) The term polypropylene does not include propylene copolymers or modified polypropylene.

(2) Reference allegedly does not teach a coextruded polyamide layer/polypropylene layer.

(3) "Consisting of" language in the instant claims excludes an additional layer in the plastic film.

This is complete summary of applicants' position.

The Advisory Action of September 18, 2003, stated that, in reply, the Examiner offers the following rebuttal:

Migliorini et al.

(1) The term "polypropylene" as recognized in the art does in fact encompass copolymers and hence that is why those skilled in the art utilize the term "polypropylene homopolymers" to clearly specify that the polypropylene is formed only from propylene monomers, as offers the following references as support (Genske et al., U.S. Patent No. 4,764,404, Col. 7, lines 14 to 35, 52 and 53; Mizutani, U.S. Patent No. 4,486,497, Col. 3, lines 20 to 53; Liu, U.S. Patent No. 4,378,404, Col. 2, lines 5 to 18; Stead et al., U.S. Patent No. 4,297,408, Col. 1, line 28 to Col. 2, line 32; Eustnce et al., U.S. Patent No. 4,243,798, Col. 12, lines 21 to 29; Jud et al., U.S. Patent No. 6,405,896, Col. 3, lines 14 to 30). Further, a modified polypropylene is a polypropylene by the mere recitation of the term. Therefore, considering applicants did not define the term "polypropylene" to be limited to polypropylene homopolymers only, the Examiner takes the position that the claim limitation "polypropylene" as accepted in the art would in fact encompass not only polypropylene homopolymers but also polypropylene copolymers and modified polypropylene.

(2) With regards to coextrusion, it is noted that the reference must be taken as a whole and as such does in fact teach that the film of the invention may be produced by coextrusion particularly as described in the example. Applicants disagree with this statement because it does not comport with the requirements of Section 102.

(3) Applicants' arguments regarding the term "consisting of" have been considered however it is noted that the instant claims recite: "A sterilizable composite film...**comprising**...having a layer structure containing one on top of the other...c) a second functional layer that is a second plastic film **comprising** a film consisting of" (emphasis added). Hence contrary to the applicants' arguments, the film of the instant invention may include other films and/or layers in addition to the polyamide/polypropylene extrudate in the second functional layer. Applicants point out that amended Claim 30 eliminates the Examiner's position.

Hence, the Examiner maintains her position with regards to the rejections recited in paragraphs 6 and 8.

This rejection should be withdrawn.

Claims 30, 34, and 38 to 45 have been rejected under 35 U.S.C. 102(b) as being anticipated by Breitler et al. (U.S. Patent No. 5,589,275) for the reasons recited in the prior Office Action and restated below. Applicants traverse this rejection.

Breitler et al. does not teach or suggest applicants' claimed composite. Anticipation under Section 102 requires that a prior art reference disclose all of

the features, limitations, structures, etc., recited in the claim. Breitler et al. discloses a polyamide layer on each side of the metal foil. Breitler et al. does not disclose any member of applicants' first functional layer between either of its polyamide layers and its metal layer, therefore Breitler et al. does not teach or suggest applicants' composite film.

The Office Action stated that Breitler et al. teaches a composite material suitable for sterilization containers or packages wherein the composite contains a metal layer on both sides of which is a plastic layer wherein the metal layer is a metal foil, preferably aluminum or aluminum alloy with an aluminum purity of most preferably 99.5 percent or higher, including AA8014, AA8079 or AA8101, having a thickness of 8 to 120 μm ; wherein the plastic layer(s) is a polyamide-based thermoplastic containing polyamide with a thickness of 20 to 50 μm (Abstract; Col. 1, lines 19 and 20; Col. 3, lines 1 to 22, 66 and 67). Applicants traverse this statement as being an incorrect statement of the disclosure of Breitler et al. As per the disclosure of Breitler et al., the only layers that can be between the polyamide layers and the metal layer are thin adhesive layers and/or thin primer or bonding agent layers and/or barrier layers.

Breitler et al. works with a basic composite material of a metal layer with a polyamide layer on both sides. When Breitler et al. permits any layer (i.e., adhesive or bonding agent primer) between one of the polyamide layers and the metal layer, Breitler et al. specifically indicates such. All of the layers mentioned by Breitler et al. are located outside of the polyamide layers (i.e., not between the

polyamide layers and the metal layer). Breitler et al. does not disclose any polyolefin layer between either of its polyamide layers and its metal layer.

Breitler et al. uses polypropylene in sealing layers located on the outside of the polyamide layers. Sealing layers are not used by Breitler et al. inside of the polyamide layers.

The Office Action stated that Breitler et al. teaches that the plastic layers on both sides of the metal layer may include composites of two or more films or layers wherein the polyamide-based thermoplastic layers may additionally and independent of each other be provided with an outer lying sealable layer and/or barrier layer of thermoplastics, such as a polypropylene sealable layer, wherein the sealable layers are sealable films deposited via adhesives, applied by lamination or lamination coating wherein the thickness of the sealable films may be 6 to 100 μm thick and furthermore, one or more layers, e.g., 1 to 10 μm thick, of a sealing layer coating may be deposited on the plastic composite (Col. 4, lines 1 to 38). Applicants traverse this statement as it does not indicate that there is no disclosure in Breitler et al. that places any sealable layer between the polyamide layers and the metal layer. The sealable layers of Breitler et al. only lie outside of the polyamide layers.

The Office Action stated that Breitler et al. further teaches that a single or double-sided sealable composite may be obtained by single or double-sided coextrusion of the plastic layers, wherein in that connection, it is useful for the plastic layers to contain or comprise a polyamide-based thermoplastic and at least one polyamide layer to feature a sealing layer on at least one side, i.e.,

each layer of polyamide thermoplastic may be covered with a sealable layer, such as polypropylene, on one side or both sides, independent of the other layers (Col. 4, lines 36 to 45). Applicants traverse this rejection as being clearly incorrect.

The issue is whether Breitler et al., in column 4, lines 9 to 44, particularly lines 36 to 44, discloses:

- (1) an outerlying sealable (polypropylene) layer on either or both sides of the composite material; or
- (2) a sealable (polypropylene) layer on either or both sides of each polyamide layer (of the composite).

Analysis of the disclosure of Breitler et al. clearly shows that column 4 thereof deals with an outerlying sealable layer on either or both sides of the composite material.

The Examiner's position that column 4 of Breitler et al. deals with the polyamide layers (instead of the composite mater) is in error.

The Examiner has incorrectly taken portions of column 4 of Breitler et al. out of context and has misanalyzed such disclosure. The context of Breitler et al. is that Breitler et al. is dealing with the composite material.

Throughout all of Breitler et al. the context is the composite material of their invention. When Breitler et al. speaks of "on one or both sides", Breitler et al. is only speaking of the composite material. The context of all the disclosure of Breitler et al. is the composite material of their invention.

The portion of column 4 of Breitler et al. relied upon by the Patent Office clearly deals with sealable layers located on the outer sides of the composite material. The context is entirely in terms of the composite material. There is no teaching of a sealing layer between a polyamide layer and the metal layer in the text in lines 3 to 45 of column 4 of Breitler et al. All references to sealing layers in such text are exclusively to sealing layers, located on the outer surfaces of the composite material, i.e., on the outer surface of the plastic layers of the composite material.

Lines 36 to 45 of column 4 of Breitler et al. recites “*** with a sealable layer on one or both sides, ***” This statement refers to the sides of the composite material (and not to the polyamide layers) as shown by the language of lines 36 and 39 and the overall context of usage in Breitler et al. This is further confirmed by usage of such language elsewhere in Breitler et al., for example, column 5, line 49, to column 6, line 14.

Page 2100-120 of the M.P.E.P. states that a “prior art reference must be considered in its entirety, i.e., as a whole, ***.” It is error for the Patent Office to take a sentence(s) out of context, particularly where such sentence(s), as here, refer to other sentences/paragraphs that clearly established the context.

Lines 9 to 13 of column 4 of Breitler et al. are not discussing the plastic layers by themselves, but instead only as components in the structure of the basic composite material. The use of the phrase “outer lying sealable layer” refers only to the outside surfaces of the basic composite material (i.e., the outside surface of each of the plastic layers). The words “outer lying” refer only

to the side of each of the plastic layers away from the metal foil. Furthermore, the above quotation also shows that the sealable layers were only located on the outside of the composite material on the outer side of the polyamide layers.

The phrase “on outer lying sealable layer and/or a barrier layer” restricts the sealable layer to the outside surface of the plastic layers in the composite material. The term “outer lying” does not modify the barrier layer.

When Breitler et al. meant that a substance or layer could be located between a plastic layer and the metal layer, the text clearly says or indicates so. See column 4, lines 46 to 61, of Breitler et al. that recites that the barrier layer can be between one of the plastic layers and the metal foil. The term “outer lying” does not modify “a barrier layer”, but instead restricts the location of the “sealable layer” to the outside surface of the plastic layer away from the metal foil.

There is no reason in the composite material of Breitler et al. to have an inner sealable layer (it already typically has an adhesive coating and/or bonding agent between the metal foil and the polyamide layer). The sealing layer of Breitler et al. is used only as the outermost layer for the purpose of safely fixing or sealing the lid to the base part of a packaging. The Examiner did not correctly analyze column 4 of Breitler et al. in view of such reference as a whole.

The Office Action stated that Breitler et al. teaches that to join the aluminum foil or to bond the plastic films or individual layers to each other, an adhesive coating and/or bonding primer is usually employed wherein a suitable adhesive is a maleic-anhydride modified polypropylene, and suitable bonding

agents are epoxy or urethanes, wherein the bonding agent or primer may be for example applied in amounts of 0.1 to 10g/m², usefully 0.8 to 6g/m² or the adhesive layer has a thickness of 1 to 12 µm or applied in an amount of 0.1 to 14 g/m² (Col. 5, lines 3 to 47). This disclosure of Breitler et al. does not anticipate applicants' invention as a whole.

The Office Action stated that Breitler et al. further teaches that the composite material may also feature a sealing layer such as PET on one or both sides of the composite independent of the other layers, with a thickness of 6 to 100 µm (Col. 4, lines 20 to 35). It is not a further teaching, it is the only teaching of Breitler et al. regarding sealing layers.

The Office Action stated that Breitler et al. teaches a number of layer arrangements wherein the plastic films may be formed by warm coating or coextrusion and may be subjected to stretch-drawing, to produce a composite film useful in manufacturing packaging and parts of packaging such as packaging containers, base parts, blister packs, for storing or packaging foodstuffs or pharmaceutical products (Col. 5, line 48, to Col. 6, line 23; Col. 6, line 65, to Col. 7, line 33). Applicants traverse this statement. As shown above, Breitler et al. does not teach the structural sequence of applicants' layers. Breitler et al. does not anticipate applicant' claimed invention.

The Office Action stated that, with regards to the limitation "lacquer", the Examiner takes the position that the synthetic coating layers taught by Breitler et al. reads on the term "lacquer" layer(s). Even if so, Breitler et al. does not teach or suggest applicants' claimed invention.

The Office Action stated that, hence, according to a broad interpretation of Breitler et al., the composite may have the following structure: coextruded (PP/PA/PP)/optional primer or adhesive/metal foil/optional primer or adhesive/coextruded (PP/PA/PP) which reads on the above recited claims given that a polypropylene layer which is a polyolefin may be adjacent the metal foil directly or via a primer or adhesive and given that the instant claims do not exclude the incorporation of additional layers. Applicants traverse this statement. The Examiner speaks of "a broad interpretation" of Breitler et al. Section 103(a) requires facts, not speculation. So-called broad interpretation is merely speculation, clearly erroneous at that. The facts of the disclosure of Breitler et al. clearly establish that the Examiner's position and statement are incorrect.

The Office Action stated applicants' arguments filed 1/30/03 have been fully considered but they are not persuasive and/or moot in view of the new ground(s) of rejection. Applicants traverse this statement for the reasons set out herein.

The Office Action stated: that applicants argued that the Examiner's interpretation of Breitler et al. is incorrect, that nowhere does Breitler et al. disclose a polypropylene layer between the metal layer and the polyamide layer, and that the recitation at col. 4 of Breitler et al. only teaches polypropylene layers on the outer sides of the composite and not the outer sides of the polyamide layer and hence between the polyamide layer and the metal layer; and that, however, the Examiner maintains her position with regards to Breitler et al. and specifically points to lines 36 to 44 of column 4 of Breitler et al. which read:

“A single or double-sided sealable composite is obtained by single or **double sided coextrusion of the plastic layers with, e.g., a polypropylene/polyethylene copolymer.**”

Applicants traverse this statement because the Examiner has taken disclosure of Breitler et al. out of context, for example.

The Office Action stated that connection is useful for the plastic layers to contain or comprise of a polyamide-based thermoplastic to feature a sealing layer on at least one side, i.e., **each layer of polyamide-based thermoplastic may be covered with a sealable layer on one or both sides, independent of the other layers.** Applicants traverse this statement because the Examiner's position is not based on the actual disclosure of Breitler et al.

The Office Action stated: that this recitation clearly states that **each layer** of polyamide may be provided on **one or both sides** with a sealable layer, polypropylene per col. 4, line 24, independent of the other layers, **not** that each layer of polyamide may be provided **only on one side** with a sealable layer such that the composite is provided with an outerlying sealable layer on one or both sides as interpreted by applicants; and that, hence, the Examiner maintains her position that the invention taught by Breitler et al. does in fact teach the instantly claimed invention having the structure polyamide plastic layer/metal layer/polyamide plastic layer wherein **each polyamide plastic layer** may be provided on one or both sides with a sealable polypropylene/polyethylene layer independent of other layers by coextrusion, hence resulting in pp/pa/pp/metal foil/pp/pa/pp, and further notes that her interpretation **is consistent** with what is

understood in the packaging art, note specifically Muggli (U.S. Patent No. 5,968,663, commonly owned by Alussuisse Technology and Management) which also utilizes the same language as the commonly assigned Breitler et al. and further exemplifies polyethylene/polypropylene "sealable layers" (c, c¹, e and e¹) on both sides of the plastic layers (d and d¹), which are present on both sides of a central metal layer (a) (Abstract; Col. 3, line 42 to Col. 4, line 2; Col. 4, line 57 and 8). Applicants traverse this statement for the reasons set out above.

The Office Action stated: that further, a fair reading of Breitler et al. by one having ordinary skill in the art would nevertheless leads one skilled in the art to the interpretation that a sealable or polypropylene layer can be provided on **either or both sides of each polyamide layer** independent of other layers; and that, hence, given that the description at column 4, lines 36 to 44, can be interpreted both ways by one having ordinary skill in the art, the Examiner maintains her position that the Breitler et al. reference serves as a teach with regards to the instant invention. Applicants traverse this statement. The Examiner's position is in error. The Examiner has not factually established a prima facie showing of obviousness.

The Advisory Action of September 18, 2003, stated that, with regards to applicants' arguments of the rejections, the Examiner has made an attempt below to summarize applicants' main arguments with regards to the three primary references below:

Breitler et al. as primary in paragraph 7-

(1) Reference allegedly does not teach a polypropylene layer between the metal layer and the polyamide layer wherein the Examiner's interpretation that a polypropylene layer is on the inner side of the polyamide layer is merely speculation and not based on facts.

Applicants' position is correct.

The Advisory Action of September 18, 2003, stated: that the Examiner believes applicants' current arguments with regards to Breitler et al. are based on the same premise as applicants' previous arguments – whether the Examiner has properly interpreted the teachings of Breitler et al. in column 4 of the reference; that, in response to applicants' current arguments, the Examiner first refers applicants to the previous rebuttal as clearly recited in the prior Office Action and further notes that the Examiner's interpretation is not merely speculation but based on facts and a clear reading of the text as previously recited; that the Examiner notes that a reference (Muggli) was further provided to show that the Examiner's interpretation was in fact consistent with the art that; hence, the Examiner maintains that upon a clean reading of Breitler et al. one skilled in the art would interpret column 4 to teach that a sealable or polypropylene layer could be provided on either or both sides of each polyamide layer; and that, hence, the Examiner maintains her position with regards to the rejection recited in paragraph 7. Applicants traverse this statement because applicants have shown above why it is in error.

This rejection should be withdrawn.

Claims 30, 34 and 38 to 45 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Migliorini et al. (U.S. Patent No. 5,591,520) in view of Breitler et al. Applicants traverse this rejection.

The Office Action stated that the teachings of Migliorini et al. are discussed above. Applicants have shown above that Migliorini et al. and the Examiner's description of the teachings of Migliorini et al. and do not teach or suggest applicants' claimed invention. Breitler et al. does not cure the defects of Migliorini et al. in the search for applicants' invention.

The Office Action stated that, although Migliorini et al. teaches that the composite comprises a metal or aluminum layer formed by metallization, Migliorini et al. does not teach that the metal layer is formed by a metal foil or aluminum foil having the instantly claimed properties. By this statement, the Examiner has factually shown in the record that Migliorini et al. does not anticipate any of applicants' claims. There are other major differences that show Migliorini et al. is lacking under both Sections 102(b) and 103(a).

Note that, in regard to all of the Section 103(a) rejections in the Office Action, the Examiner did not follow the requirements of the Graham decision so all of the Section 103(a) rejections are defective. The Examiner, accordingly, has not made any prima facie showings of obviousness in the record.

The Office Action stated that, however, Migliorini et al. does teach that a metallized layer is a functional equivalent to a metal foil layer in terms of providing barrier properties in a multilayer composite film wherein the metal layer thickness affects the barrier properties of the film, hence based on the teachings

of Migliorini et al., one having ordinary skill in the art at the time of the invention would have been motivated to utilize a metal or aluminum foil layer in the invention taught by Migliorini et al. based on the desired barrier properties for a particular end use of the packaging film. Applicants traverse this statement. No where does Migliorini et al. disclose that a metallized layer is the functional equivalent of a metal foil layer. What Migliorini et al. discloses is that metallized layers have replaced in many instances (column 1, lines 11 to 14 – Background of the Invention). Migliorini et al. focuses improvement on certain composite films having a metallized layer. Therefore, Migliorini et al. directs one ordinarily skilled in the art away from applicants' claimed invention.

The Examiner's attempt to show motivation fails.

The Office Action stated that, further, one having ordinary skill in the art would have been motivated to utilize any conventional metal foil or aluminum foil layer utilized in the art wherein Breitler et al. teaches the use of an aluminum foil layer having the instantly claimed properties in a composite barrier packaging film and, hence, "one skilled in the art" would have been motivated to utilize the preferred metal foil taught by Breitler et al. in the composite barrier film taught by Migliorini et al. Applicants traverse this statement. The standard is one ordinarily skilled in the art. The Examiner has not factually shown in the record any motivation for combining Breitler et al. with Migliorini et al.

If Breitler et al. is combined with Migliorini et al., then both sides of the metal foil would have direct polyamide layers – that is not the applicants' claimed invention. All of the teachings of the prior art of record has to be considered

under Section 103(a). There is no reason of record why the Examiner can pick part(s) of Breitler et al. and ignore other parts of Breitler et al. that destroy the Examiner's rejection.

The Advisory Action of December 18, 2003 stated: that, with regards to Migliorini et al. in view of Breitler et al., in response to applicants' argument that there is no suggestion to combine the references, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art; that, in this case, Migliorini et al. teaches a metallized composite film comprising a generic aluminum layer but does not teach that the aluminum layer is an aluminum foil having the instantly claimed features of purity; that, however, it is noted that aluminum having the claimed purity is preferable in the art in terms of metal/plastic packaging materials wherein a foil of aluminum or aluminum alloys as instantly claimed is preferred as taught by Breitler et al.; that, hence, the question is whether one skilled in the art would have been motivated to utilize an aluminum foil layer taught by Breitler et al. in place of the aluminum metallized layer in the invention taught by Migliorini et al.; that the Examiner maintains her position that it would have been obvious given that a metallized layer and a metal foil are known functional equivalents in terms of a gas barrier material in a packaging film wherein the barrier properties are a function of the thickness of the metal layer; and that, therefore, it would have been obvious to one skilled in

the art to utilize any species of aluminum barrier layer in the invention taught by Migliorini et al. wherein Breitler et al. teaches that the instantly claimed species is an obvious species utilized in the packaging art. Applicants traverse this statement. The Examiner has clearly used forbidden hindsight. The two rejection references in combination would result in an entity that is different from applicants' claimed invention.

This rejection should be withdrawn.

Claims 30, 34 and 38 to 45 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Breitler et al. in view of *Ullmann's Encyclopedia of Industrial Chemistry*, vol. A11, (Ullmann), for the reasons recited in the prior Office Action and restated below. Applicants traverse this rejection.

The Examiner has said that she has restated the reasons she put forth in the prior Office Action, therefore, this rejection is defective. The burden of proof is initially upon the Examiner. Applicants presented rebuttal in the last amendment. Since the Examiner addressed and overcame such rebuttal, reliance on the prior reasons means that the Examiner has not followed the required procedure and that this rejection is defective on its face.

The Office Action stated that the teachings of Breitler et al. are discussed above. Breitler et al., as shown above, does not teach or suggest applicants' claimed invention. Ullmann does not cure any of the defects of Breitler et al. in the search for applicants' claimed invention.

Breitler et al., for example, states:

“The composite material contains a metal layer on both sides of which is a plastic layer; ***; the plastic layers contain or comprise polyamide-based thermoplastics.” [Abstract]

Breitler et al. does not teach or suggest the layer structure of applicants' claimed invention, as applicants demonstrated under the above anticipation rejection.

The Office Action stated that Breitler et al. teaches a composite film containing a metal foil, particularly aluminum, with plastic films on both sides thereof wherein the plastic films may be multilayer films formed from various layer structures and specifically teach the general layer structure as instantly claimed with layer thickness within or comprising the instantly claimed ranges utilizing optional adhesive, bonding and/or primer layers to bond plastic layers to each other and/or to the metal foil as instantly claimed wherein the plastic films may be extruded, coextruded or laminated via adhesive. Applicants traverse this statement as an unjustified attempt to generify the limited disclosure of Breitler et al. The plastic films of Breitler et al. contain or comprise polyamide-based thermoplastics. Breitler et al. does not disclose applicants' claimed first functional layer between a polyamide layer and the metal foil (layer).

The Office Action stated that, though Breitler et al. discloses all of the layers, layer materials and layer thickness as instantly claimed, Breitler et al. does not specifically limit the invention to the specific composite film combination as instantly claimed, however, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize any of the structures disclosed by Breitler et al. selecting from the disclosed materials taught by Breitler et al.

based on the desired film properties for a particular end use, and further to utilize routine experimentation to determine the optimum thickness of the individual layers given that layer thickness is a result-effective variable affecting the barrier, mechanical, adhesion and sealing properties of the resulting composite based on the desired end use of the packaging composite taught by Breitler et al.

Applicants traverse this statement as being hindsight and speculation.

Furthermore, Breitler et al. does not teach or suggest the layer structure claimed by applicants. No motivation to combine the two rejection references is present.

The so-called use of "routine experimentation" has no basis under Section 103(a) or the Graham decision. Also, the Examiner has not shown factually that layer thickness is a result-effective variable regarding adhesion.

The Office Action stated that, further, it would have been obvious to one having ordinary skill in the art to determine the appropriate laminating method, such as extrusion laminating, lamination coating, coextrusion or laminating via adhesives as taught by Breitler et al., to produce the multilayer plastic films based on the individual layer materials to be laminated wherein laminating via adhesives, extrusion coating and coextrusion are conventional methods of producing composite plastic films as evidenced by Ullman which specifically teaches that coextrusion is unique in that it can produce very thin multilayer films and that polyamide films are mainly employed in composite structures produced by lamination, extrusion coating, or coextrusion with sealing or barrier resins (6.7 Polyamide, page 105). This statement is, of course, hindsight. But, even further, the combination of Breitler et al. and Ullmann still does not result in the layer

structure claimed by applicants. The Examiner has not shown otherwise so this rejection, like the other obvious rejections, is structurally fatally defective.

The Office Action stated that Ullman also teaches that composite films are conventionally utilized in the packaging industry to produce various packaging structures such as bags, sacks, and blister or cushion packs, or thermoformed structures such as containers from thicker films, wherein the combination of plastic films with aluminum foil produces semirigid composites with exceptionally low permeability to gases, water vapor and odors (6.13 Composite Films, 7. Summary of Uses, pages 108 and 109). Applicants point out that such generalized information is basically worthless under Section 103(a).

This rejection should be withdrawn.

Claim 34 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Breitler et al. in view of Abrams (U.S. Patent No. 6,090,471) for the reasons recited in the prior Office Action and restated below. Applicants traverse this rejection.

The Office Action stated that, though Breitler et al. teaches that the composite is useful for producing packaging materials, Breitler et al. does not teach that the composite further comprises a print layer or a print layer with a lacquer overcoat. Breitler et al. does not teach or support applicants' claimed invention. Abrams does not cure the defects of Breitler et al. in the search for the applicants' claimed invention.

The Office Action stated that, however, it is well known in the art, as taught by Abrams, that a sterilizable packaging composite can comprise a print

layer to provide desired product information for a particular packaging end use and that a protective overcoat or lacquer layer can be provided over the print layer to protect the print layer during sterilization. Applicants traverse this statement. It appears that the only mention of the term "lacquer" in Abrams is in conjunction with the bonding of the second plastic film material to the metallic foil – see Claim 9 of Abrams. The printing is on the other side of the metallic foil in conjunction with the first plastic film material layer. The Examiner's description appears to be in error.

All of the prior art teachings of record have to be considered, particularly in prior art applied by the Examiner. The inner or second plastic layer in Abrams is only exemplified by polypropylene – there is no disclosure of any multiple plastic layers, let alone a coextrudate of two plastic layers. The Examiner has no basis in the record for not using the inner plastic layer of Abrams as opposed to the disclosure of Breitler et al.

Neither Breitler et al. nor Abrams appears to address the problem of delamination during sterilization, or disclose or assert a solution to such problem.

The Office Action stated that, therefore, one having ordinary skill in the art at the time of the invention would have been motivated to include a print layer on the composite taught by Breitler et al. to provide desired product information or decorative properties, wherein the print layer is further provided with a protective overcoat layer to protect the print layer during sterilization as taught by Abrams. Applicants traverse this statement. The Examiner has not factually provided, in

the record, motivation to even combine Breitler et al. and Abrams, such combination still not resulting in applicants' claimed invention.

This rejection should be withdrawn.

Claims 30 to 38 and 43 to 47 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtsuki et al. (U.S. Patent No. 4,407,689).

Applicants traverse this rejection.

The Office Action stated that Ohtsuki et al. teaches a laminated member comprising a metal foil laminated to a thermoplastic film via a polyolefin-based adhesive wherein the metal foil is made of aluminum with a thickness of about 5 to 1,000 μm , may be subjected to chemical treatment (primer) on the surface of the metal foil, and may be backed with a heat-resistant film such as a polyamide or polyester film (*also reads on term "lacquer layer"*) since the metal foil is generally low in mechanical strength, wherein a print layer may be formed between the heat-resistant layer and the aluminum foil (Abstract; Col. 2, line 25, to Col. 4). Applicants traverse this statement. For example, this statement leaves out some of the generic nature of the disclosure of Ohtsuki et al. The metal foil can be backed with a thermoplastic resin (1). The thermoplastic resin (4) can be printed and/or painted.

Applicants' claimed invention addresses a specific problem and solves that specific problem. Ohtsuki et al. does not recognize such problem and does not teach or suggest a solution to such problem.

A major focus of Ohtuski et al. is to provide a specific adhesive that prevents separation of a thermoplastic resin layer from a metal foil (with or

without a thermoplastic resin backing) as a result of retort sterilization. This is not the same as preventing the separation of two thermoplastic resin layers (the two layer composite being adhered to the metal foil).

Examples 1 and 2 of Ohtsuki et al. used a special modified polyolefin adhesive to bond together a polypropylene film and an aluminum foil (backed with a polyester film). Example 2 (lines 19 to 29) of Ohtsuki et al. states:

“The laminated members obtained in Examples 1 and 2 were formed into a bag. These bags were charged with chinese mixed flavoring and sealed. They were subjected to retort sterilization at 120°C. for 30 minutes, and then the adhesion strength between the aluminum foil and the polypropylene film was measured in each bag. The adhesion strength of each of the bags was within the range that can be practically used. However, the adhesion strength of the laminated member of Example 1 was 1,050 g/15 mm, whereas that if the laminated member of Example 2 was lower by about 20%.” [Emphasis supplied]

Example 3 states that, with a tin plate and a polypropylene film, nearly the same results as in Example 1 were obtained. Example 4, with an aluminum foil and a polyethylene film, states:

“The adhesion strength between the polyethylene film and the aluminum foil was 850 kb/15 mm.” [Emphasis supplied]

Applicants' claimed invention requires a second functional layer that is a film of a plastic consisting of a coextrudate of a polyamide layer and a polypropylene layer, with both of such layer in direct contact with each other.

(The polyamide layer is closest to the metal foil.) The problem that applicants' claimed invention addresses and solves is the delamination due to sterilization conditions. See page 1, lines 19 to 25, and page 8, lines 23 to 25, of the specification.

Applicants' claimed invention provides composite films that can be sterilized without suffering delamination of the individual layers. Ohtsuki et al. does not teach or suggest that, when it coextrudes two plastics, such coextrudate does not delaminate under sterilization conditions. Instead, Ohtsuki et al. only discloses that its special adhesive prevents delamination of a polyolefin layer (i.e., polypropylene or polyethylene) and a metal foil under retort sterilization conditions. Silence in a reference is no substitute for the facts required by Section 103(a).

Ohtsuki et al. generically speaks of a thermoplastic resin film (4). In addition to such generic disclosure, column 3, lines 20 to 26, of Ohtsuki et al. states:

"The thermoplastic resin films as used in this invention may be a single resin film produced from, for example, polyolefin, polyamide, polyester, polyvinyl chloride, polyvinylidene chloride, polybutadiene, polycarbonate, an ethylene-vinyl acetate copolymer, or polyvinyl alcohol, or a composite film produced therefrom by coextrusion, for example."

[Emphasis supplied]

Such examples of useful thermoplastics results in a very large number of possible coextrudates with no guidance (or motivation) to specifically use a

coextrudate of polyamide and polypropylene, or that such specific coextrudate eliminates the problem of delamination under retort specification conditions. To assert otherwise is mere forbidden hindsight. In fact, Ohtsuki et al. tends to direct away from a coextrudate of polyamide and polypropylene by stating that it is preferred to use a polyolefin or a polyamide (it does not say together) when the thermoplastic resin film is to be in contact with food or drink (see column 3, lines 27 to 32).

Column 3, lines 33 to 38, of Ohtsuki et al. states that when two thermoplastic resin film layers are used, they can be from either the same resin or different resins. This statement does not direct specifically to a coextrudate of polyamide and polypropylene or teach/suggest that such a specific coextrudate eliminates delamination thereof under sterilization conditions.

Applicants found an invention with unexpected result in the forest of the Ohtsuki et al. disclosure.

Column 3, line 65, to column 4, line 2, of Ohtsuki et al. discloses that it is preferable to use highly crystalline polyolefins when its laminated member is used for the production of a retort sterilization package. Thus, Ohtuski et al. again directs away from applicants' use of a coextrudate of polyamide and polypropylene.

The Office Action stated that Ohtsuki et al. teaches that the thermoplastic film may be a single resin film, for example, polyolefin such as polyethylene or polypropylene, polyamide, polyester, polyvinyl chloride, polyvinylidene chloride, polybutadiene, polycarbonate, an ethylene-vinyl acetate, or polyvinyl alcohol or a

composite film produced therefrom by coextrusion (Col. 3, lines 20 to 32).

Applicants have shown above that applicants' claimed invention is unobvious over even this disclosure of Ohtsuki et al. Note that the Office Action has not made the express fact-findings required by the Graham decision.

The Office Action stated that Ohtsuki et al. further teaches that the laminated product may be used for the production of a retort sterilization package wherein when it is used as a material for packaging food to be sterilized in a retort, it is preferred to use high density polyethylene or polypropylene as the polyolefin (Col. 5, lines 22 to 27). Applicants traverse this statement as being an incorrect statement of the disclosure of Ohtsuki et al. As shown by the examples thereof, Ohtsuki et al. is only concerned with delamination of the metal foil (1) and the thermoplastic resin film (4).

The Office Action stated that, hence, Ohtsuki et al. teaches a composite having the following structure: polyester/print layer/primer/aluminum foil/primer/polyolefin adhesive/thermoplastic film wherein the teachings of Ohtsuki et al. suggests that the thermoplastic film may be a coextruded film of two different polymers such as polypropylene and polyamide (Col. 3, lines 20 to 32; Col. 39 to 42) and, therefore, "one skilled in the art" at the time of the invention would have been motivated to utilize a coextruded film of any two polymers disclosed by Ohtsuki et al. including polypropylene and polyamide. Applicants traverse this rejection. [Motivation for one skilled in the art is of no importance under Section 103(a).] The number of possible combinations of two thermoplastics based on the subgeneric groups and specific resins listed in

Ohtsuki et al. is very large. There is no motivation of record for one ordinarily skilled in the art to use a coextrudate of polyamide and polypropylene. There is no suggestion in Ohtsuki et al. that such a coextrudate will cure the problem (that Ohtsuki et al. does not mention) of delamination of separate layers, or even a coextrudate, of any of two thermoplastics, let alone polyamide and polypropylene.

The Office Action stated that, with regards to Claim 32, though Ohtsuki et al. teaches that the polyester backing film is present to provide improved mechanical strength, Ohtsuki et al. does not specifically teach that the polyester film is monoaxially or biaxially oriented or that the polyester is formed from PET or PPT. Claim 30 has been amended to correct it to recite polyester. The Office Action stated that, however, it is well known and conventional in the art to orient a polymer film mono- or bi-axially to improve the mechanical strength of the film, hence, given that Ohtsuki et al. teaches that the polyester film is provided because the metal foil lacks mechanical strength, one having ordinary skill in the art at the time of the invention would have been motivated to improve the mechanical strength of the polyester film and resulting resin backed metal foil by orienting the polyester film as well known and conventional in the art. Applicant's invention as a whole is unobvious over Ohtsuki et al. The Office Action stated that, further, one having ordinary skill in the art at the time of the invention would have been motivated to utilize any polyester film conventionally utilized in producing packaging composite materials wherein PET and PPT are obvious species of polyester film utilized in the art to provide mechanical strength to a

composite film. Applicants' invention as a whole is not made obvious by the rejection reference.

The Advisory Action of September 18, 2003 stated that, with regards to applicants' arguments of the rejections, the Examiner has made an attempt below to summarize applicants' main arguments with regards to:

Ohkuti et al. as primarily in paragraph 11 to 13-

(1) Reference provides various thermoplastics to chose from and hence the group to select from is very large and allegedly would not lead one to applicants' invention.

(2) Instant invention allegedly provides unexpected results and hence would overcome a prima facie case of obviousness.

The Advisory Action of September 18, 2003 stated that:

(1) It is first noted that Ohtsuki et al. does teach that the thermoplastic film may be a single resin film prodced fro polyamide or polyolefins such as polypropylene, polyethylene and polybutene or a composite film produced therefrom by coextrusion; Ohtsuki et al. also teaches that the thermoplastic may be polyamide, polyolefins (e.g., PE, PP, EP, PB), polyester, polyvinyl chloride, polyvinylidene chloride, polybutadiene, polycarbonate, ethylene-vinyl acetate, or polyvinyl alcohol; that, hence, the group of thermoplastics materials for the coextruded composite metals nine thermoplastics wherein a coextrusion of any two thermoplastic material listed would give a selection group of approximately 36, for a total of 144 based on the four polyolefins; that, though a group of 144 is not a very large number for it to be obvious to one skilled in the art to select one

element from the group, the Examiner further notes that the statements at col. 3, lines 27 to 31, of Ohtsuki et al. would guide one skilled in the art to select from polyolefins and polyamides as being preferred thermoplastics.

(2) With regards to applicants' alleged showing of unexpected results, the Examiner is unclear as to what data applicant is relying upon as a showing of unexpected results in order to overcome the obviousness rejection given that there does not appear to be a clear showing of unexpected results on the record.

Hence, the Examiner maintains her position with regards to the rejection recited in paragraphs 1 to 13.

Claims 39 to 42 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtsuki et al. in view of Breitler et al. Applicants traverse this rejection.

The Office Action stated that the teachings of Ohtsuki et al. are discussed above. Ohtsuki et al. does not make applicants' invention obvious. Breitler et al. does not cure the defects of the primary reference in the search for applicant's invention.

The Office Action stated that, though Ohtsuki et al. teaches that the metal foil may be an aluminum foil, Ohtsuki et al. does not specifically teach that the aluminum foil has the properties as instantly claimed. The Office Action stated that, however, one having ordinary skill in the art would have been motivated to utilize any conventional aluminum foil utilized in the art wherein Breitler et al. teaches the use of an aluminum foil layer having the instantly claimed properties in a composite barrier packaging film and, hence, "one skilled in the art" would

have been motivated to utilize the preferred aluminum foil taught by Breitler et al. in the composite barrier film taught by Ohtsuki et al. Applicants traverse this statement. The combination of rejection references still does not result in the applicants' invention.

This rejection should be withdrawn.

Claim 48 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtsuki et al. in view of Abrams. Applicants traverse this rejection.

The Office Action stated that the teachings of Ohtsuki et al. are discussed above. Abrams does not cure the defects of Ohtsuki et al. in the quest for applicants' invention.

The Office Action stated that, though Ohtsuki et al. teaches that the aluminum foil layer may comprise a print layer and a polyester or polyamide overcoat or backing film, Ohtsuki et al. does not teach that the print layer is provided on the polyester backing film and then an overcoat layer is provided on the print layer. The Office Action stated that, however, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize any combination of print and polyester layers wherein Abrams teaches that a sterilizable packaging composite can comprise a print layer to provide desired product information for a particular packaging end use and that a protective overcoat or lacquer layer can be provided over the print layer to protect the print layer during sterilization. Applicants' invention as a whole is unobvious.

The Office Action stated that, therefore, one having ordinary skill in the art at the time of the invention would have been motivated to include a print layer on

either side of the polyester film taught by Ohtsuki et al. to provide desired product information or decorative properties, wherein the print layer is further provided with a protective overcoat layer to protect the print layer during sterilization as taught by Abrams. The result is still not applicants' invention.

This rejection should be withdraw.

Reconsideration, reexamination and allowance of the claims are requested.

Respectfully submitted,

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